

Net4Cities: A Real-Time Network of Noise Monitoring Terminals in European Cities

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EU's Zero Pollution Action Plan

Adopted in May 2021 – The
“European Green Deal”

Long-term vision - Reduce
air, water, and soil pollution
to levels that are no longer
harmful to health and
natural ecosystems by 2050

Targets a 30% reduction in
exposure to harmful
transport noise by 2030

Net4Cities - Real-time noise
and air quality monitoring

Net4Cities Consortium

Strategic group of academic institutions, private-sector partners and public environmental authorities

Harmonised network of permanent noise monitoring stations, air quality monitors and vehicle traffic counters

Web-based platform of real-time data accessed across 11 major European cities

Focus: "Measuring the actual" instead of modelling

Participating Cities

- Southampton
- Rotterdam
- Antwerp
- Oslo
- Düsseldorf
- Geneva
- Berlin
- Heraklion
- Limassol
- Tirana
- Tbilisi



Hardware – Quantum Outdoor



- Class 1 precision
- Robust and durable outdoor design
- IP65 enclosure
- 20–140dB single measurement range

MyCirrus Cloud Platform



Real-time data streaming



4G/LTE industrial SIM
(also WiFi & Ethernet)



1-second time history
blocks



Live and historical data
access



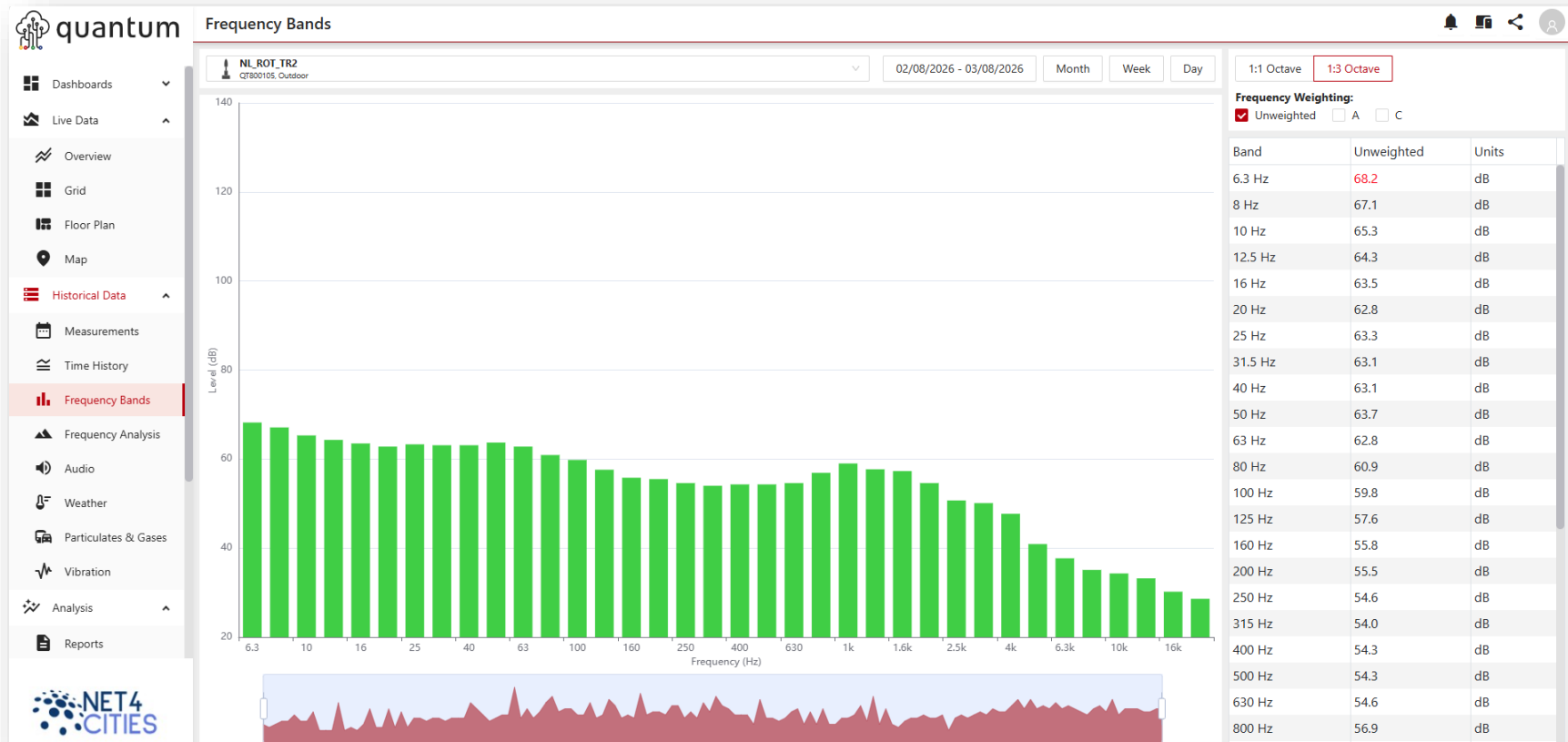
Open API -> Integrated
with Net4Cities Studio



Visualisation of real-time
noise levels, air quality,
traffic volume

Acoustic Capabilities

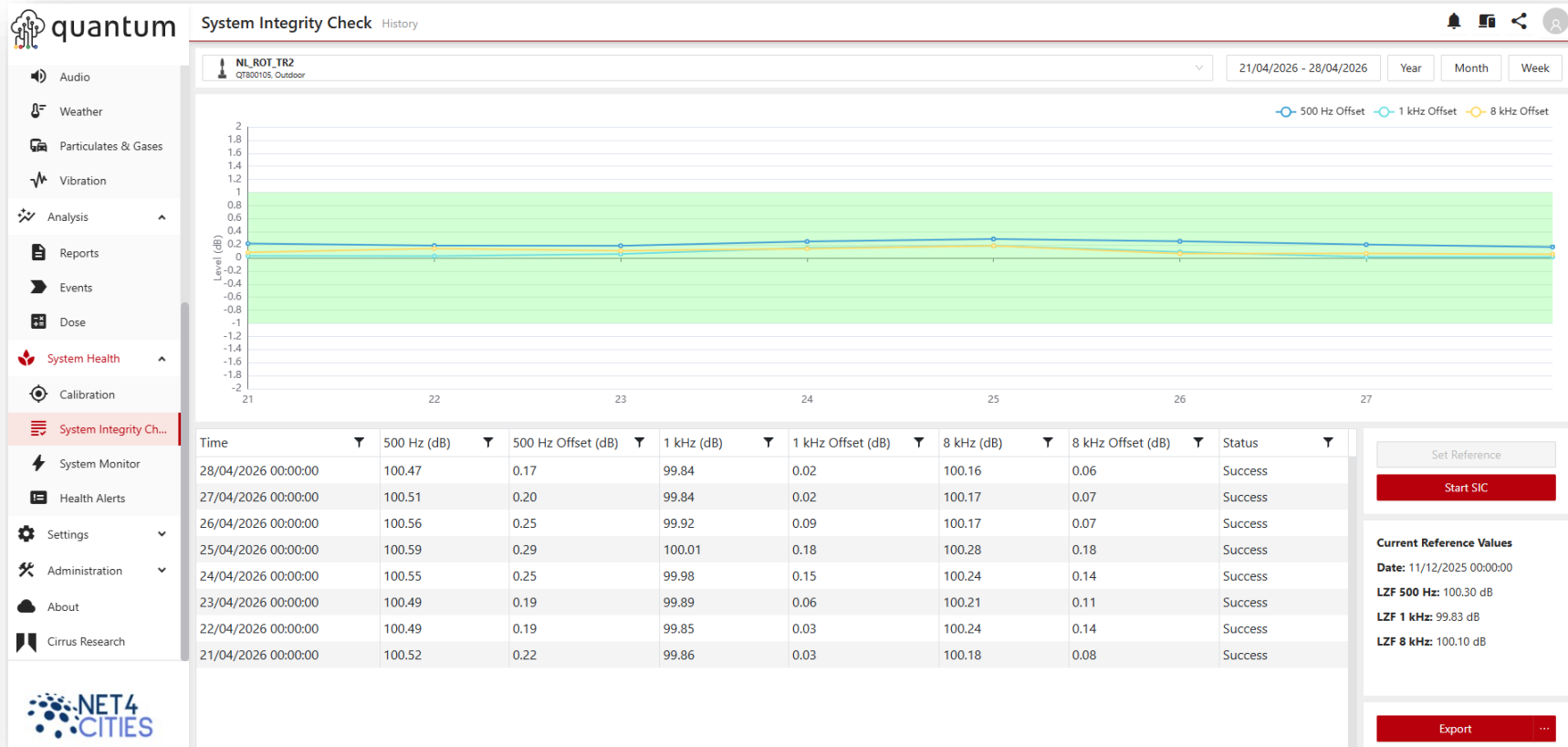
Simultaneous frequency & time weightings
1:1 and 1:3 octave band analysis



System Integrity Check (SiC)

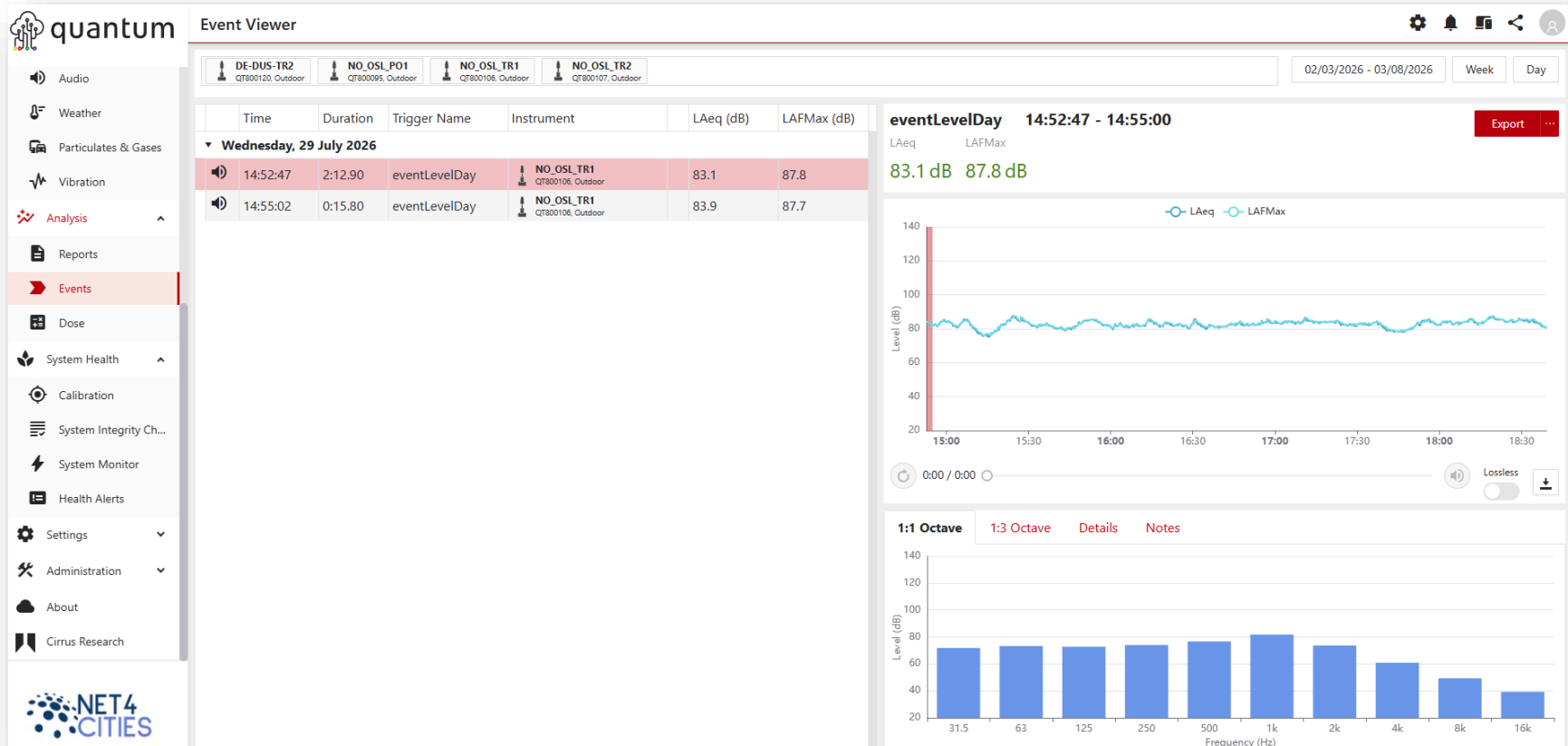
Automated daily diagnostics -> long-term stability

Reference signals at 500 Hz, 1 kHz, 8 kHz



Audio Event Triggering

Threshold-based alerts -> auto audio capture
Identifies noise sources (traffic, sirens, wind)



Mapping & Visualisation

GPS-enabled location tracking -> Google Maps

Custom dashboards per city



Case Study – Berlin BLUME Integration

Winter installation
challenges

Plug-and-play simplicity

"Tempo 30" zones

3dB reduction



Multi-Parameter Integration

Noise Monitor
(Cirrus Research)

Air Quality Monitor
(Airmodus, Naneos)

Traffic Counter
(Telraam)

Real-time correlation of
critical environmental
factors within city life

Scalability & Future Outlook



Over-the-air updates



Standardised Class 1 hardware



Long-term dataset for urban planning



Supports sustainable, healthier European cities

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